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Citation for published version (APA):

Boulding, H. F., Kamenetzky, A., Ghiga, I., Ioppolo, R., Herrera, F., Parks, S., Manville, C., Guthrie, S., & Hinrichs-Krapels, S. (2018). *Mechanisms and pathways to impact in public health research: A preliminary analysis of research supported by the National Institute for Health Research (NIHR)*.

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Mechanisms and pathways to impact in public health research:

A preliminary analysis of research
supported by the National Institute for
Health Research (NIHR)

March 2018



Summary

This study was **commissioned** via the **PRiSM** programme, delivered by a joint team from RAND Europe and the Policy Institute at King's College London.

Aims were:

- to describe the diversity of public health research supported by NIHR
- identify examples of impacts and pathways to impact
- share learning from public health researchers in producing and demonstrating impact.

Our approach:

- we **sampled** projects identified as 'public health research' using the NIHR Public Health Overview database (n=1,386 projects)
- we obtained quantitative data from a subset reporting via Researchfish® (n=857 projects) and qualitative data from in-depth interviews with PIs and team members (n=9 projects)

We found **significant diversity in NIHR funding mechanisms supporting public health research**, with studies contributing substantially to a **variety of public health outcomes**.

Pathways to impact included:

- contributing to debates on what constitutes appropriate evidence
- building relationships across health and non-health sectors
- developing skills and resources to bridge gaps between research and practice

Background and our approach

PRiSM and study commissioning route



Department
of Health

(funded)



Policy Research in Science and Medicine



EUROPE

(conducted
analysis of
and for)



**National Institute for
Health Research**



Background to the study

There are **few studies** demonstrating the contribution of public health research to society:

- may be due to scarcity of research impact analyses generally
- or due to diversity of ways in which field of public health (+ research) is described

Challenges exist in conducting such analyses:

- data challenge = no standardised mechanism for aggregating evidence of impacts (in spite of a number of tools aimed at supporting project-level reporting of research outcomes)
- timing challenge = it can take in the range of 15-20 years for research to translate into public outcomes, and the contribution of research over time is non-linear

Our motivation was to **contribute to the scarce evidence** base by:

- demonstrating the value of public health research in a more holistic sense
- bringing to light the pathways through which public health research contributes to society
- providing accountability and advocacy for the field

Our hope was to inform both researchers and funders on the types of mechanisms, pathways and activities that would support and encourage wider impacts from public health research.

Aims & our approach (1)

We used the **Payback model** as a means to help articulate impacts, while mindful of the **context** in which public health studies are undertaken, and the importance of exploring **information needs** of actors in different roles within organisations, as a crucial part of any examination of impact.

Our **specific aims** were to:

- a) describe, at a high level, the diversity of NIHR public health research, in terms of funding mechanisms, disciplinary contributions, and public health impacts
- b) explore and narrate examples of these impacts, and pathways to impact that existing reporting mechanisms may not otherwise have captured
- c) share learning and challenges of public health researchers in producing and demonstrating the impact from their work, from intermediate outcomes to longer term population health or patient improvement

Our initial data source was the **NIHR Public Health Overview dataset**, hosted by NETSCC: this provided a map of 1,386 studies pertaining to public health,¹ spanning the period 2000-2016.

¹ Tagged using an evolving series of inclusion and exclusion criteria, see **Annex 1**

Aims & our approach (2)

We subsequently categorised PHO studies according to the **Public Health Outcomes Framework** to identify the types of outcomes addressed in each (Figure 2).

To give us an indication of studies that may have begun reporting impacts, the PHO team identified a subset of the PHO dataset that were eligible to begin reporting via Researchfish®.

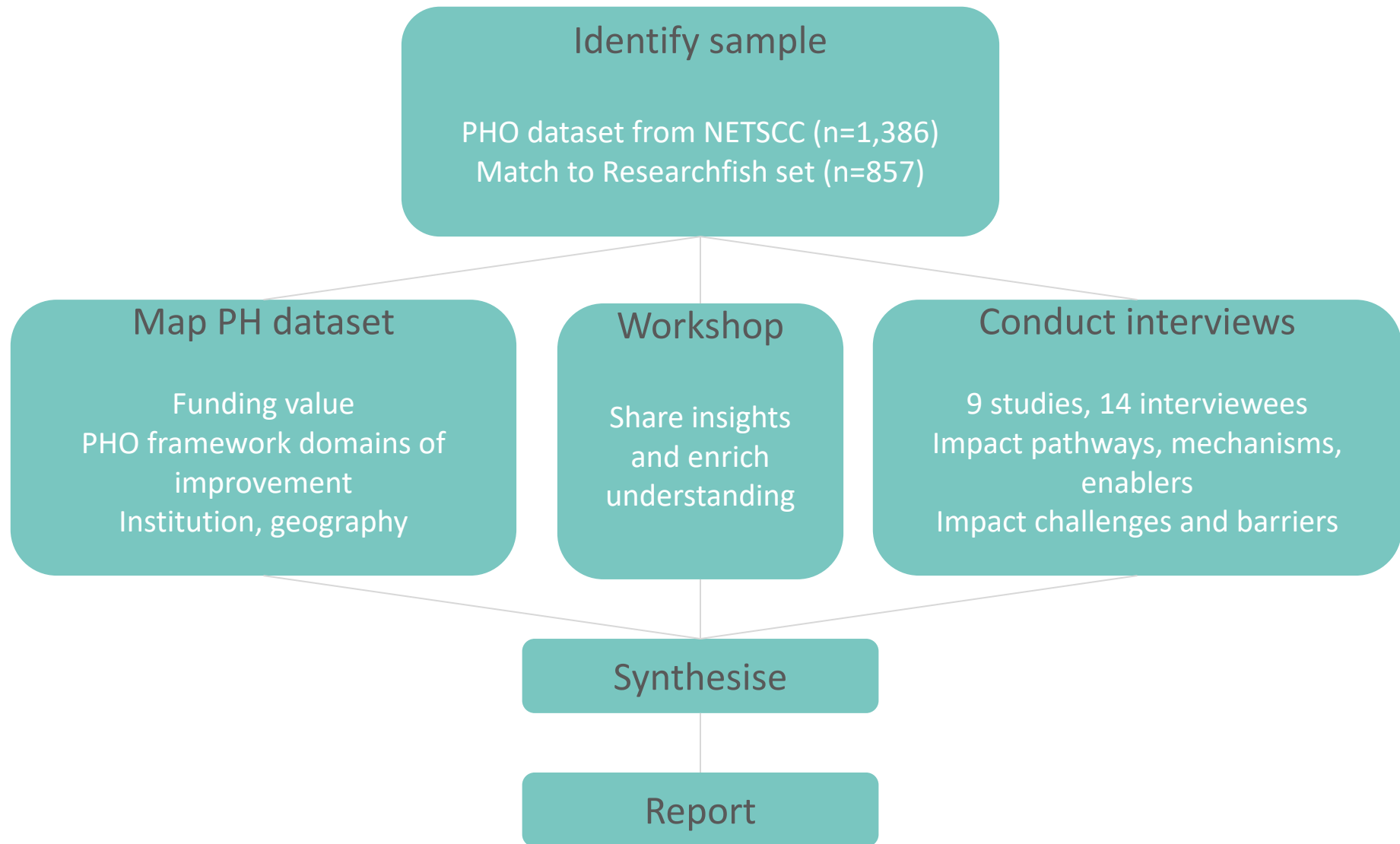
We identified a total of 857 such studies, using a mix of automated and manual searching. These formed the basis for further visualisations of study outputs and outcomes (Figure 3).

We further selected a subset of 9 studies as the focus for **qualitative interviews**, using a stratified random sample based on two principal criteria:

- 1) Size of NIHR funding award: (*£0–£350,000; £350,000–£1million, and; over £1 million*)
- 2) Domains of improvement set out in the Public Health Outcomes Framework: (*Healthcare public health and preventing premature mortality, Health Improvement, Health protection; and Improving the wider determinants of health*)

To share insights from our research into impact mechanisms, and enrich our understanding of the public health research landscape, we held a small **preliminary findings workshop**, attended by 3 NIHR Programme Directors and a member of the NETSCC PHO team.

Project schema



Principal findings

A variety of funding mechanisms support public health research

89% of projects analysed in our portfolio included as 'public health research' are supported via programmes other than NIHR School for Public Health Research and the NIHR Public Health Research Programme, demonstrating the **diversity of NIHR funding streams** that support public health-related research (Figure 1).

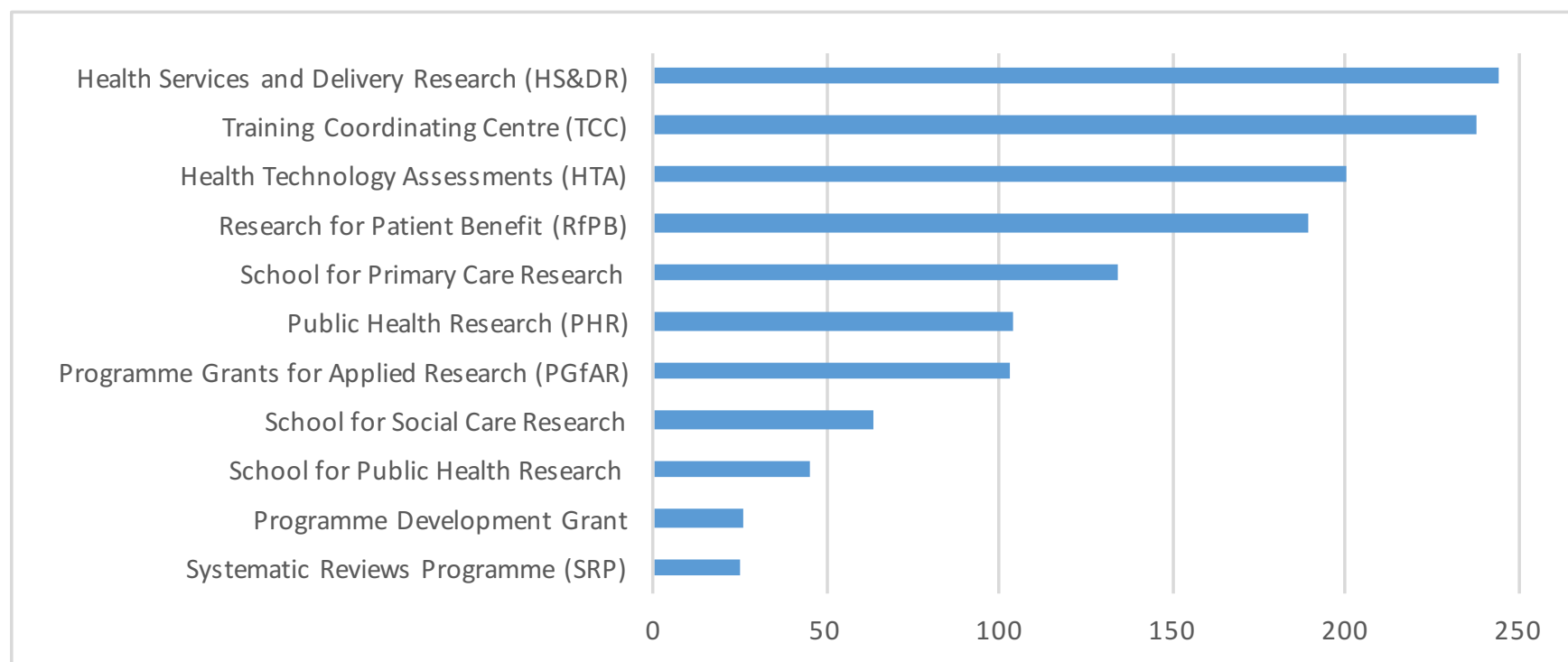


Figure 1: Counts of studies included in the NIHR Public Health Overview (PHO) dataset received from our analysis, by their respective NIHR funding stream (only counts >20 shown).

A variety of outcomes arise from public health research

NIHR projects in the Public Health Overview dataset also showed a **diversity of intended outcomes**, when mapped to the four domains of improvement set out in the Public Health Outcomes Framework (Figure 2).

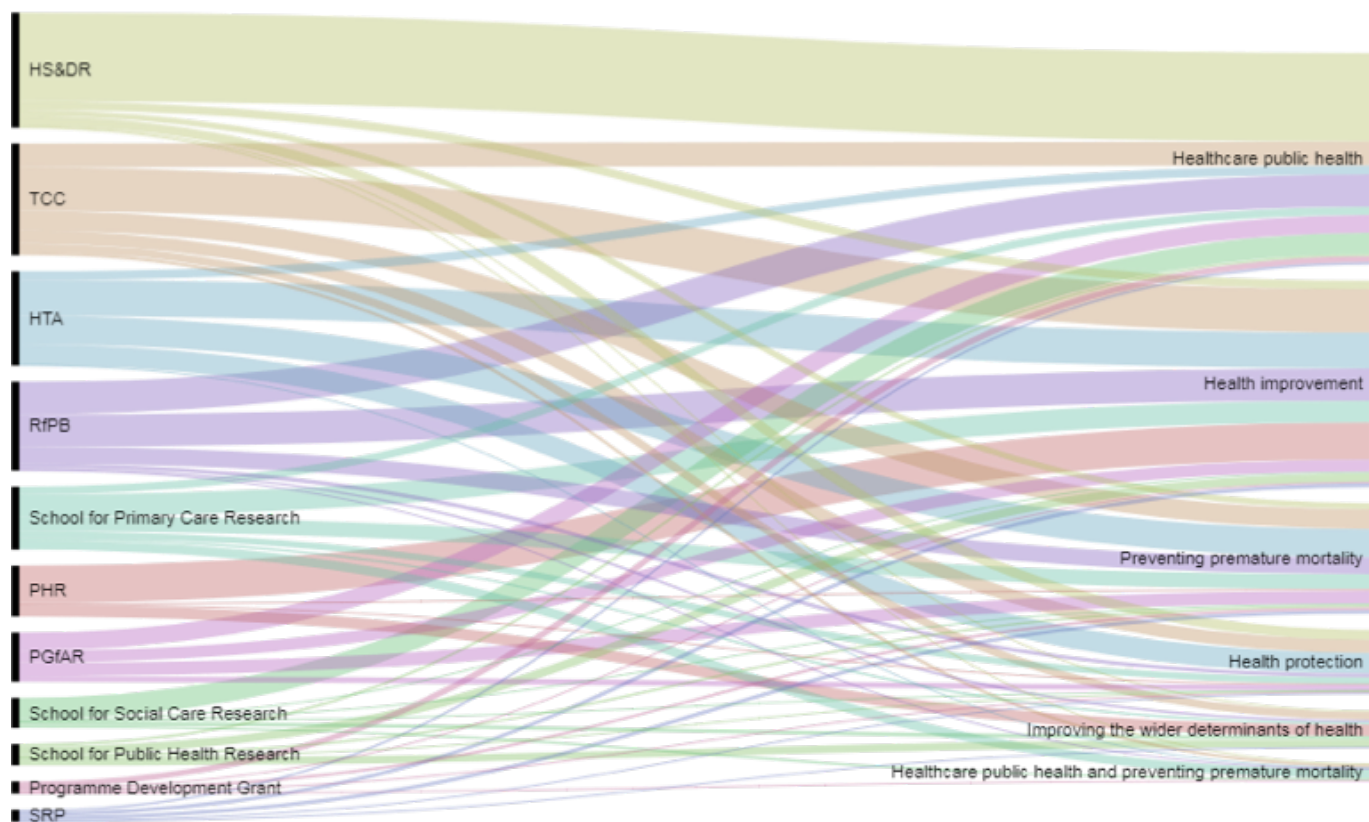


Figure 2: Alluvial diagram showing relationship between NIHR funding streams and intended outcomes, as mapped onto domains in the Public Health Outcomes Framework.

Diversity in public health can be both a facilitator and barrier to impact

The **diversity** we observed in the quantitative data was reflected in our in-depth case studies.

We found that researchers had different interpretations of what public health could include as a **research discipline**.

One researcher spoke of the **benefits** that interdisciplinary collaboration had brought to their research, given the variety of disciplines that contribute to public health research. But this diversity could also be a **barrier** to making an impact when compared to other health-based disciplines.

Our in-depth case studies suggested that:

- the diversity inherent in public health **research and methods** could complicate pathways to impact, making it more difficult to communicate research effectively
- the diverse **forms of evidence** produced by public health research do not always correspond with those required by policy makers to effect change
- the **devolved nature** of public health has implications for the feasibility of interdisciplinary research, particularly if requiring collaboration between health and non-health sectors

Engaging external stakeholders can facilitate impact, but takes time

Following publications, **engagement activities** were the most frequently reported output in the Researchfish dataset. Our interviews enabled us to explore the nature of these activities.

One of the most significant impact mechanisms reported by our interviewees was the **relationships** they developed with a range of external stakeholders:

- relationships appeared to be most effective if they were in place from the start of the research
- engaging stakeholders during research the project offered opportunities to influence change directly within an organization

A number of interviewees demonstrated initiative in reaching out to **organisations outside the health sector**:

- these people facilitated impacts over the lifetime of the research, and beyond
- relationships took time to build and could be resource intensive, and thus challenging to continue after a funded project is closed

“I wouldn’t go directly to NIHR unless I had support from the screening committee of England. You need to lay the groundwork. That’s one way to impact, getting opinion leaders on board, getting the community behind you and the professional bodies and policy makers.”

A variety of engagement activities facilitated impact

For each of the in-depth case studies, we found that researchers employed a **variety of different engagement** activities beyond academic publications.

These included:

- presentations to non-academic audiences using infographics, animation and web-based media to communicate main headlines clearly
- messages and activities tailored to those in a position to drive implementation forward
- use of mainstream and social media when exposure of a story can help to effect positive policy change

Being mindful of the **right communication channels** also meant not investing in activities that were not appropriate for a particular project, for example, not soliciting mainstream media if the individual conversations and meetings with stakeholders were more important and would help drive adoption in practice.

“We were directly addressing those to the audiences that needed to hear them, either through presentations or the reports. So we stopped there, and actually I think that’s appropriate. I think those messages needed to be agreed with and then owned by others in order to take them forwards.”

Hitting the right ‘policy window’ can facilitate (positive) impact

Several of the researchers we interviewed highlighted the importance of hitting the **right policy or impact ‘window’**.

Although several of our participants emphasized the need to **reduce the time** it takes for research findings to reach practitioners, we also found that research that is ‘ahead of the curve’ may not attract interest from policy makers until years later.

Several of our case studies revealed the difficulties associated with achieving impact with a **negative research finding**, especially if findings ran contrary to current thinking and practice.

“If you want impact, you need positive results, and that’s dangerous for research [...]. Having these incentive structures puts academics in a difficult situation: you need something new and exciting that works, and that can’t or doesn’t always happen.”

The potential **value of impact derived from negative findings** was illustrated by one case study, which – by saving a significant of money – meant resources could be invested in other projects:

“The single most specific impact of the study was to stop the larger cluster randomised controlled trial from going ahead.”

Researchers' role in driving impact

One of the most striking elements of our conducting in-depth case studies was the role of researchers' **own perceptions and skills** in facilitating impact.

Interviewees' views ranged from:

- highlighting impacts (on patients) that occurred directly through the research, in addition to aims to achieve longer-term impacts through (national) policy change
- a feeling of being “duty bound” to ensure they facilitated impact from their research
- caution given the potential for conflict of interest if researchers felt the need to advocate impacts from their own research, suggesting a role for “neutral” third parties

We noted that there was also an acknowledgement that the skills required for engagement beyond academic peers, be it with social media, mainstream media, or indeed other forms of communication, are **not always readily available** to researchers:

"We have capacity issues in public health researchers, particularly those with clinical qualifications."

Our conversations with researchers suggested that they would benefit from **support for impact and engagement**, both in terms of building skills, and also through building impact elements more explicitly into the research process.



Conclusions

Conclusions

Considerations for public health research funders and institutions

- broader consideration of the many funding streams that support public health research can demonstrate the substantial investment and contributions made within the discipline
- researchers (especially those facing difficulties in having the time, financial resources, and skills) could benefit from support to facilitate pathways to impact from their research
- institutional frameworks should support stakeholder engagement, and grow the skills and confidence of researchers in building trusted relationships
- funders can work collaboratively with researchers to facilitate impact, through incorporating consideration of impact into research planning and upstream assessment of applications

Considerations for public health policy and practice

- where research might be best utilized to improve public health policies and guidelines, the evidence produced is not guaranteed to reach those who have the power to effect change
- researchers need to think about timing, negotiating the presentation of negative findings, and understanding the types of evidence required for implementing public health initiatives
- more intersectoral collaboration is needed, which may require in the way financial resources are allocated at the local authority level to support public health activity, and working with initiatives in transport, social care, and education to tackle public health issues

Annexes

Annex 1: NIHR PHO dataset inclusion and exclusion criteria

Inclusion criteria:

- Preventative interventions at the population level
- Early identification and screening programmes
- Identification of clinical thresholds and care pathways of common conditions
- Health inequalities
- Improving services – health needs assessment and health planning
- Health protection including patient safety, infection control

Exclusion criteria:

- Treatment interventions with the exception of treatments for perinatal mental disorders and where increased physical activity is used as the intervention
- Basic clinical studies
- Diagnostic test
- Workforce issues, including leadership and training issues
- Projects investigating study design
- Secondary prevention studies (e.g. prevention of relapse of depression)

Annex 2: summaries of subset of NIHR studies selected for interview

[as attached separately]

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